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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/965,426	09/27/2001	Marcus C. Merriman	47097-01106USC1	4436
56356	7590	02/24/2006	EXAMINER	
PACTIV CORPORATION c/o JENKENS & GILCHRIST 225 WEST WASHINGTON STREET SUITE 2600 CHICAGO, IL 60606			CHAWLA, JYOTI	
			ART UNIT	PAPER NUMBER
			1761	
DATE MAILED: 02/24/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/965,426	Applicant(s) MERRIMAN ET AL.	
	Examiner Jyoti Chawla	Art Unit 1761	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 38-56, 76-86, 119-121, 123-140, 142-159 and 161-168 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 38-56, 76-86, 119-121, 123-140, 142-159 and 161-168 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on December 16, 2005 has been entered. Claims 38-56, 76-86, 119-121, 123-140, 142-159, and 161-168 remain pending.

Claim Objections

2. Claims 38, 119 and 138 are objected to because of the following informalities:

3. Claims 38, 119 and 138 recite (A method of manufacturing a modified atmosphere package, the method comprising the acts of), the language of the preamble consists of terms "the acts of" followed by a number of steps. The term "the acts of" does not affect the meaning of the claim and is considered redundant. For examination purposes, it will be understood that the term "the acts of" address "the steps of" that follow the preamble of claims 38, 119 and 138. Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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5. Claims 38-56, 76-86, 119-121, 123-137, 138-140, 142-156, 157-159 and 161-168 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

6. Claims 38, 76 and 157 have amended term "the meat having pigment". It is unclear as to what exactly the term "the meat having pigment" means. It may indicate the kind of meat as red meat or a pigment added to the meat at the time of packing. For examination purposes, it will be understood that the term "the meat having pigment" means the natural pigment present in the meat.

7. Claims 38, 76, 119, 138 and 157 also have an additional amended term "such that the color of the meat pigment is not fixed and turns brown in a natural time period upon removal of the second layer". The term "turns brown in a natural time period" is a relative term, which renders the claim indefinite. The term "turns brown in a natural time period" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. First, it is not clear if "turns brown" means any brown is visible or 100% brown. Second, it is not clear if "a natural time period". For examination purposes, it will be understood that the term "turns brown in a natural time period" means the meat remains red for the conventional period of up to 3 days after being removed from a modified atmosphere package and exposed to air.

Claim Rejections - 35 USC § 103

8. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

9. Claims 38-56, 76-86, 119-121, 123-137, 138-140, 142-156, 157-159 and 161-168 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stockley III et al. (US 5686127), in view of Koch et al. (US 34591 17) and Woodruff et al. (US 4522835) and further in view of Shaklai (US 6042859).

10. In regards to the rejection of all the claims listed above please see the reasons stated in the office action mailed August 12, 2005.

11. Claims 38, 76 and 157 have amended term "the meat having pigment" in the body of the independent claims. For examination purposes, it will be understood that the term "the meat having pigment" means the natural pigment present in the meat. Stockley III et al., teach a package for packaging fresh red meat, which means the package taught by Stockley can package the meat that has pigment (e.g., hemoglobin). All the other reference relied upon for the purpose of this and the previous office action dated August 12, 2005; also teach method or package for meat that contains either hemoglobin or myoglobin or other natural pigments. Therefore, it is obvious that Stockley III et al., does teach a package suitable for packing and distributing "the meat having pigment".

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12. Applicants have amended claims 38, 76, 119, 138 and 157 to include the phrase "such that the color of the meat pigment is not fixed and turns brown in a natural time period upon removal of the second layer". Since the term is not defined in the specification as well as the claim, for examination purposes, it will be understood that the term "turns brown in a natural time period" means the meat remains red for the conventional period of up to 3 days after being removed from a modified atmosphere package and exposed to air.

13. Since the applicant does not define "natural time period" in which the CO treated meat turns brown, for examination purposes, it will be understood that the term "turns brown in a natural time period" means the meat remains red for the conventional period of up to 3 or more days after being removed from a modified atmosphere package and exposed to air.

14. Stockley III et al., make a package that can be used for packing and distribution of fresh red meat in a low oxygen environment and is then removed at the introduction of product to a high oxygen environment at the supermarket level (Column 1, lines 5-17).

15. Woodruff et al., are also concerned with the color of meat during storage in a low oxygen atmosphere, teaches storing a meat with a gas mixture that includes carbon monoxide (0.1-3% CO, along with 20-60% CO₂, 40-80% N₂, and 0% O₂) to maintain a desired red color. At this particular level of CO, Woodruff et al., teach only the first 0.25 inch of the meat undergoes a conversion of deoxymyoglobin to carboxymyoglobin. Woodruff et al., also teaches the meat, fish or poultry, if refrigerate

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stored under controlled temperature range of about 29°F to 33°F, would retain good color produced by the taught process for three to four weeks, prior to retail/sale.

(Abstract, Column 1, line 63 to Column 3, line 30, Examples).

16. Koch et al., are also concerned with providing a red-colored meat at the retail outlet. Koch et al. teach wrapping a meat with CO containing film under a modified atmosphere, so that the carbon CO is transferred from the film to contact the surface of the meat so that carboxymyoglobin is formed on the meat surface (column 1, lines 23-50, Column 2, line 67 to Column 3, line 3, Column 3, line 49 to column 4, line 10). Koch et al. teach a meat surface that has been exposed to 0.08cc (0.00488 cubic inches = 0.005 cubic inches after rounding off = 0.5 volume percent) of CO per square inch area to maintain the meat in a saleable red color. The range suggested by Koch et al., falls within the recited range of the applicant.

17. In regards to the meat turning brown in the natural time period Koch et al. also teach meat surface that has been exposed to CO for 7 days during storage under a modified atmosphere will remain red in color for 3 days after being removed from the modified atmosphere packaged and packaged in conventional wrapper at the retail outlet (Column 3, lines 4-17). Thus, Koch et al. provide evidence that CO is removably associated with a meat surface so that the meat browns in a natural time period because the meat has a shelf-life of 3 days after being removed from the modified atmosphere package and placed in a conventional display wrapper.

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18. Shaklai is relied on as evidence that the color of meat pigment exposed to CO is not fixed and that the meat surface will brown upon exposure to air depending on the time the meat is exposed to the CO (Column 8, lines 10-30). In example 2, Shaklai teaches after storage for 30 minutes to CO, the meat became brown within 24 hours after exposure to air, which falls within "a natural time period" since meat generally may take up to 3 days after exposure to the air to brown. In Example 4, Shaklai also teaches that when meat is preserved in a 100% CO environment for 21 days so that the entire meat becomes red, the outer 1 mm eventually becomes brown in 14 days after removing the meat from the CO enriched environment and exposing the meat to air (Example 4 in light of Example 3 in Column 9).

19. The methods suggested by Koch et al., Woodruff et al., and Shaklai, temporarily enhanced the color of meat by exposing the meat to an atmosphere of CO as recited by the applicant. Woodruff et al., Koch et al., and Shaklai, teach that the time period in which natural browning of meat occurred after CO treatment, depending on several controlling factors like;

- the method used for exposing fresh meat to CO, e.g., permeable film (Koch et al.) or modified atmosphere (Woodruff et al.)
- the temperature of storing the CO treated meat (Woodruff et al.),
- the concentration of CO in the treatment gas mixture (Shaklai),
- the duration for which the meat is exposed to CO (Koch et al., Shaklai).

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20. Since Koch et al., Woodruff et al., and Shaklai include CO in the package, which temporarily and reversibly enhances the color of meat by converting reactive hemoglobin/ myoglobin pigments to a stable carboxyhemoglobin/ carboxymyoglobin (red color of meat) and delay the formation of metmyoglobin (brown color of meat) during storage and distribution to preserve the pleasing red color of the meat. Also, since Woodruff et al., Koch et al., as well as the applicant are all exposing the surface of fresh red meat to levels of CO within the recited range of the applicant, it would have been obvious to the one with ordinary skill in the art at the time of the invention to modify the package taught by Stockley III et al., based on the teachings from Koch et al., Woodruff et al., and Shaklai to include the applicant suggested levels of CO and note that the meat pigment is not fixed and it turns brown in a natural time period after exposing the packaged meat to oxygen rich atmosphere as recited by the applicant.

Response to Arguments

21. Applicant's arguments filed December 16, 2005 have been fully considered but they are not persuasive.

22. Applicant's declaration by one of the co-inventors Mr. Gary R. DelDuca ("the DelDuca Third Declaration") (Exhibit 1) to assist in showing the non-obviousness of the invention. The examiner would like the applicant to note that there was not found in the prosecution of the application. Applicant is invited to submit the required for examiner's consideration.

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23. In response to applicant's arguments (labeled I) against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

24. See the reasons stated in the office action mailed August 12, 2005 and also the rejection in the present office action.

25. Stockley et al., teach a modified atmosphere package for packing and distribution of red meat like the applicant and Koch, Woodruff, and Shaklai all teach modified atmosphere packages and methods with CO as part of their modified atmosphere for packaging raw meat. Therefore, not only is there motivation to combine the references, but also there is reasonable expectation of success in doing so.

26. With respect Sorheim, Whirlpool, and Dr. Hunt, the applicant states that their teaching that CO "fixed" the color of the meat pigment (II, A), the examiner wishes to remind the applicant that Woodruff et al., and Koch et al., provide evidence that CO is removably associated with a meat surface. The methods suggested by Shaklai also enhanced the color of meat by exposing the meat to an atmosphere primarily consisting of CO and still showed reversible association of meat pigment (myoglobin) with CO. (See the reasons stated in the office action mailed August 12, 2005 and also the rejection in the present office action). For example, Sorheim teaches exposing the meat to 0.4% CO and then storing the meat for up to 21 days at a temperature of 4°C (39°F) and 8°C (46°F). Sorheim observed the presence of stable bright color of meat that

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lasted beyond the time of spoilage. Woodruff recommends CO treatment at 0.5% volume and teaches storage of the meat at 29-40⁰ F (column2, lines 50-60) and for different time periods (Examples I-VII) for meat treatment and storage and his results teach the reversibility of carboxyhemoglobin/ carboxymyoglobin. Similarly, Shaklai et al., vary the time and of exposure of meat to nearly absolute CO and teach storage of meat at different temperatures before and after exposure (examples 1-13 and tabular results) and still able to show the reversibility of the CO bound pigment carboxyhemoglobin/ carboxymyoglobin. Therefore, applicant's references have been considered and have not been found persuasive in the light of prior art used for the earlier office actions.

27. In response to Shaklai teaching "fixing" the color of the meat pigment, applicant is once again reminded that Shaklai teaches various examples of packing meat and in those examples he teaches the effects of CO exposure on fresh meat, at various CO levels and duration of exposure. Shaklai is being relied upon (in the present office action and the one mailed August 12, 2005) as evidence that the color of meat pigment exposed to CO is not fixed and that the meat surface will brown upon exposure to air depending on the concentration and the time the meat has been exposed to the CO (Column 8, lines 10-30; examples 2 and 4).

28. In response to applicants argument that Koch does not suggest use of CO turns meat brown in a natural time period (II, B-1-B), the applicants are respectfully reminded that neither their specification nor the claims of their application define the natural time period for the meat to turn brown. And for examination purposes, the term "turns brown in a natural time period" means the meat remains red for the conventional period of up

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to 3 or more days after being removed from a modified atmosphere package and exposed to air, which is what Koch et al., teach. In regards to detailed explanation of the concept please refer to the discussion above and also see the reasons stated the office action mailed August 12, 2005.

29. In response to applicants argument that Koch et al., do not teach the right size of the meat, Koch et al., teach the use of their package for primal as well as the final cuts (column3, lines 4-17).

30. In response to applicant's argument (IV) about the claims 38,76,119,138 and 157 stating that the evidence was never considered. The applicant is respectfully reminded that since Sorheim, Whirlpool and Dr. Hunt taught the presence of stable bright color of meat that lasted beyond the time of spoilage (i.e., permanent binding of CO with meat pigment) and Woodruff et al., and Shaklai et al., teach otherwise and since they have been relied upon in the present as well as previous office actions, therefore, Sorheim reference has automatically been considered and responded to by providing references to the fact that CO reversibly binds with meat pigment. See the response above and in the previous office actions.

31. In response to applicants argument (V) about the dependent claims 39-56, 77-86, 120, 121, 123-137, 139, 140, 142-156, 158, 159, 161-168 the examiner maintains the rejections from above and the previous office actions.

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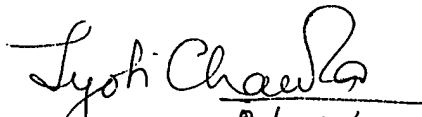
Remarks/ Conclusion

32. The prior art made of record as part of USPTO form 892 contains reference that has not been relied upon in this office action but are considered pertinent to applicant's disclosure. Carr et al. (US 6054153), disclose a modified atmosphere package that is capable of holding raw meat in lower oxygen atmosphere to prevent metmyoglobin formation until it is ready to be exposed to oxygen rich air at a later time .

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jyoti Chawla whose telephone number is (571) 272-8212. The examiner can normally be reached on 8:00 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Milton Cano can be reached on (571) 272-1398. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Jyoti Chawla
Examiner
Art Unit 1761
2/21/06


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